Professor Ron Howard’s Comments on Luenberger retirement

I shall talk about a time in our lives that only Dave and I of those present share. A time before most of the accomplishments just described. A time when retirement was the least of our concerns.

50 years ago I came for a sabbatical year at Stanford with a wife, four children and a dog. I was here because 59 years ago I had fortuitously met Bill Linvill during a summer spent at Raytheon Research Laboratories in Waltham, Massachusetts. He was a consultant - I had just graduated from MIT with a bachelor’s degree. From that time onward Bill had a major influence on my graduate education and professional life. When he left MIT for Stanford, we kept in close contact. He spoke of a new field he was creating at Stanford that used internships to broaden and deepen doctoral studies. I was intrigued, but settled in my life as Associate Director of the OR Center at MIT and heavily involved in my dynamic programming and Markov process research.

When I arrived for the sabbatical Bill had arranged, I met the people he had gathered to start the new field which was to be called Engineering-Economic Systems, initially as an institute. One was a young assistant professor named David Luenberger, who had recently completed just such an internship at Westinghouse. Others were Profs. Donald Dunn and Bill Harmon. We all shared a strong background in electrical engineering and a desire to expand into new important areas that extended beyond the purely technological. At that time David was primarily concerned with optimization research. He wrote a book, *Optimization by Vector Space Methods*, that I was pleased to have appear in a series I edited. That book is still in use today. You have already heard of his later contributions.
I decided to move to Stanford and to pursue my new interests in decision analysis. The Institute became the Department of Engineering-Economic Systems with all the prerogatives of a department. With George Murray and Dick Smallwood joining, initiatives in those early years involved marine fisheries, space programs, and education, among many others.

Technologically, these were relatively primitive times. This was before Al Gore invented the internet. There were no personal computers, no online, no emails, no websites, no Google, no gps, no cable TV, no cell phones, no digital cameras. Instant selfies were made with Polaroid cameras. Computation was done in large central computer facilities, sometimes engaged over a telephone line in a process called time-sharing. A mechanical device that sat on your desk and could add, subtract, multiply, and divide cost $2000. The same capabilities can now bought at a 7-11 for a few dollars - if you do not have a mobile phone.

These were exciting times – LSD was legal and the subject of research; the human potential movement was at its peak. Department retreats were often encounter groups. The race to the moon was on. But the times were also trying. We experienced the campus protests of the Vietnam War. We shall never forget the anguish of graduate students facing the draft and pondering going to Canada. Yet there were compensations: parking was free and readily available. We were in the Engineering Corner of the Stanford quad long before the Terman Engineering Center, now marked by a hole in the ground, was constructed.

Over those 50 years, we have seen our students become our professional colleagues and make major contributions to life all over the world. We all shared the sadness of Bill’s early passing in 1980. I am sure that if Bill could see today his effects on the lives of Dave and the many others he has influenced, he would be well-pleased.